GLOBAL ALLIANCE
OF EYE BANK ASSOCIATIONS

ALERT UP-DATE

Coronavirus (COVID-2019) and Ocular Tissue Donation

November 2020

COVID-19 is an illness characterised by respiratory symptoms, including coughing, breathlessness, and fever, caused by the infection Coronavirus (SARS-CoV-2). Individuals at greatest risk of developing a severe infective response to the virus, which can result in death, include those with underlying chronic conditions, the elderly, and immunocompromised individuals.

There is no evidence that coronaviruses can be transmitted by human tissue or cell transplantation and therefore measures in this response are precautionary.

Response plans and resource levels vary across the world, and will continue to change, depending on the country and the spread of the disease. Therefore, GAEBA advises all Eye Banks and their Medical Directors to contact their jurisdiction health authority and/or Eye Bank Association, to ascertain up-to-date local/regional exclusion and deferral criteria.

About COVID-2019 and human ocular tissue donation

1. The risk to donor ocular tissue is considered low.
2. COVID-19 is an illness characterised by respiratory symptoms, including coughing, breathlessness, and fever. Respiratory infection may become severe and can result in fatalities. Signs include acute respiratory distress syndrome, pneumonia and pulmonary CT "ground glass opacities".
3. The virus appears to be spread via respiratory droplets. It could also be spread when people touch an object which hosts the virus, and then touch their mouths, noses or eyes.
4. There have been no reported cases of transmission of SARS-CoV-2, MERS-CoV, or any other coronavirus via transplantation of human ocular tissue. A recent study reported that no SARS-CoV-2-RNA was detected in the cornea, conjunctiva or aqueous humor of five COVID-19 positive post-mortem donors.[1]
5. Many countries and regions are limiting or deferring elective surgeries during the pandemic period. This has decreased demand for transplant eligible donations for many eye banks. Therefore, eye banks should consider current and future demand for tissue when planning for recoveries. Those who reduce services need to consider access to emergency tissue during this period.

Guidelines for Selection/Exclusion of Ocular Tissue Donors

Definitions

Confirmed infection: If a diagnostic test has been performed and is positive, this constitutes a confirmed infection.

Suspected infection: As per compatible symptoms of fever and flu-like symptoms such as coughing, sore throat and fatigue, and shortness of breath, and the individual has not been tested or is awaiting a test result.

Recovery from Coronavirus symptoms: In line with public health advice, donors can be considered to have recovered if they were free of fever and respiratory symptoms at the time of death. Some individuals may have had a persistent cough for some weeks after resolution of their infection.

Recommended Guidelines

1. *Personal protective equipment*
   Care of deceased during COVID-19 pandemic includes the wearing of gowns, gloves, face masks and *eye protection*.

2. *Donor selection: persons with/who had COVID-19*
   Must not donate if they:
   (a) have tested positive for the presence of SARS-CoV-2 RNA in their upper respiratory tract specimens at least 14 days before death; and/or
   (b) became symptomatic at least 28 days before death.
   Discretionary acceptance is extended to persons:
   (a) who were positive, but more than 14 days have passed since the onset of symptoms and they are now asymptomatic; and/or
   (b) with respiratory failure not related to viral infection, or where COVID-19 was ruled out following testing.

3. *Donor selection: close-contact to persons with/who had COVID-19*
   Must not donate if:
   (c) Less than 14 days from the first day of contact with an individual confirmed or suspected of contracting COVID-19.
   Discretionary acceptance is extended to persons:
   (a) If more than 14 days since the first day of contact with an individual with a confirmed or suspected infection, and the donor remained asymptomatic; and/or
   (b) Without respiratory symptoms who were not suspected to have, and have not been tested for COVID-19 infection, and who were in intensive care units with patients who had been tested for COVID-19 infection, and subsequently moved to isolation facilities, following confirmation of infection - subject to individual risk assessment.

4. *Donor preparation*
   Ensure the ocular tissue surface is exposed to Povidone-Iodine 5% for at least 2 minutes and no more than 5 minutes between the time of the donor's death and tissue preservation. This is because a recent publication[2] found that povidone iodine readily inactivates Coronavirus (SARS-CoV and MERS-CoV) infectivity. The European Centre for Disease Prevention and Control (ECDC) considers this a disinfection or microbial inactivation step that is validated for enveloped viruses.[3]
   (a) Additional: Where possible or jurisdictionally required, provide double Povidone exposure.[4]

5. *Donor testing*

Some jurisdictions may request RT-PCR tests for SARS-CoV for all or select donors however this is not universal. Please follow local protocol, and note that these tests have variable false negative rates as high as 22%, have not been validated for cadaveric donors, and are not intended for donor screening. Routine screening measures listed in Recommended Guidelines 1-4 above should be routinely in place for evaluating clinical evidence of infection.

References

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Additional Resources

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For further information, please contact Heather Machin, at the Global Alliance via: heather.machin@unimelb.edu.au